



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,127	08/08/2001	Stephen Clark Purcell	TMC# BEL-032	5866

909 7590 02/11/2004

PILLSBURY WINTHROP, LLP  
P.O. BOX 10500  
MCLEAN, VA 22102

EXAMINER
----------

WALLACE, SCOTT A

ART UNIT	PAPER NUMBER
----------	--------------

2671

DATE MAILED: 02/11/2004



Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/925,127

Applicant(s)

PURCELL ET AL.

Examiner

Scott Wallace

Art Unit

2671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not describe how the calculating is performed without the use of a multiply operation. On page 5, 1<sup>st</sup> paragraph is describing a flowchart depicting an implementation of the invention. The last line says "if the size of the base image is not known, it can be calculated by taking the product of its magnitudes". This is a multiply operation for the size which is used in finding the storage size.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 7-9, 14-16 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhao, U.S. Patent No. 6,002,406 in view of Kacevas et al., U.S. Patent No. 6,429,873.
5. As per claims 1, 8 and 15, Zhao discloses a method for determining an amount of storage for a level of detail in a MIP map (column 9 lines 5-7). However, Zhao does not specifically disclose identifying

a given level of detail; identifying a size for an immediately larger level of detail and a magnitude for each dimension of the immediately larger level of detail; and calculating the amount of storage based on the size and magnitudes without using a multiply operation. This is disclosed in Kacevas et al in column 1 lines 24-35. The sizes are stored for later retrieval. Each size is half the previous size. So a division is used instead of multiply operation. Because the sizes are figured before hand and it doesn't say how the size was configured. As the specification says the size can be found by length times width, which is the area of the LOD. This area can also be found using addition. This size as taught by Zhao is the amount of storage of a LOD. It would have been obvious to one of ordinary skill in the art the time the invention was made to have find the sizes of the LOD's this way because this is a quicker way to determine the size of the next LOD.

6. As per claims 2, 9 and 16, Kacevas et al discloses scaling the size (column 1 lines 24-35, scaling by 2).

7. As per claims 7, 14 and 21, Kacevas et al discloses wherein a storage alignment restriction requires the starting address for each level of detail to be a multiple of m pixels from a predetermined address, wherein identifying a size and magnitudes comprises: identifying the size and magnitudes in units such that each unit contains m pixels (fig 1).

8. Claims 3, 5-6, 10, 12-13, 17, 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhao in view of Kacevas et al in further in view of Baldwin, U.S. Patent No. 6,650,333.

9. As per claims 3, 10 and 17, Zhao and Kacevas disclose wherein the size after dividing the size is the amount of storage for a given level of detail. However, they don't disclose dividing each of the magnitudes by two and discarding any remainders; and dividing the size by  $2^{expn}$  and discarding any remainder, where n is the number of non-zero magnitudes remaining after dividing each of the magnitudes. This is disclosed in Baldwin in column 10 lines 20-33. It would have been obvious to one of

ordinary skill in the art at the time the invention was made to discard the remainder because the LOD is always different by a power of two (column 10 lines 25-30).

10. As per claims 5, 12 and 19, it is well known when dividing a number, that is the same as shifting the binary equivalent to the right by one bit.

11. As per claims 6, 13 and 20, it is well known when dividing a number, that is the same as shifting the binary equivalent to the right by one bit.

12. Claims 4, 11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhao in view of Kacevas in view of Baldwin in further in view of Merz et al., U.S. Patent No. 4,692,880.

As per claims 4, 11 and 18, Zhao with Kacevas and Baldwin do not disclose adding one to the amount of storage when any of the  $n$  least significant bits of the size of the immediately larger level of detail is non-zero. This is disclosed in Merz et al in column 7 lines 1-11. It would have been obvious to one of ordinary skill in the art to the add one to the amount of storage because every lod is going to take up more or less space in memory.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Scott Wallace** whose telephone number is **703-605-5163**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Mark Zimmerman**, can be reached at 703-305-9798.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**Application/Control Number: 09/925,127**  
**Art Unit: 2671**

**Page 5**

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA,  
Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be  
directed to the Technology Center 2600 Customer Service Office whose telephone number is  
(703) 306-0377.



MARK ZIMMERMAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600